



**PRECISION
LASER
MODELS**

READY FOR LASER!

GRASSHOPPER PLAN for LASER

This laser cutting plan makes a stunning Grasshopper model like no other!

After laser cutting, assemble your model using normal PVA white woodworking glue (like Elmer's), and then either leave it bare wood, or create stunning effects using a variety of acrylic paint colours.

Body length 3 ⁵/₈" – 92mm

MAKE FOR A GIFT OR TO SELL - kit or finished model

In addition to your laser cutting plan, these are all included FREE:

FREE step-by-step assembly instructions

FREE header artwork for retail poly bag + space for your details

FREE flyer artwork, 3-on-a-sheet, black and white + space for your details

FREE flyer artwork, 3-on-a-sheet, full colour + space for your details

FREE jpeg of finished model

FREE Group photo

FREE WASP mini model to laser cut and make (credit card size plan)

FREE BUTTERFLY mini model to laser cut and make (credit card size plan)

LASER CUTTING AND ENGRAVING GUIDELINES

(This information also appears at the bottom of the laser plan.)

This model has been designed for 0.8mm (¹/₃₂") plywood, which you can buy online and may also be available at your local craft store.

There are many different laser machines on the market, offering a variety of power and speed settings, but here are suggested cutting settings which you can use as a starting point:

35 Watt – power 60; speed 2%; ppi 200. 60 Watt – power 100; speed 18%; ppi 300.

Each part of the insect has either one or two very small tabs to hold it in place on the sheet. This plan is accurate for 0.8mm (¹/₃₂") plywood. Important! Tape or weight your plywood down to keep it flat on the laser bed. Part numbers have been set up as rasters for laser engraving.

Each panel measures 6½" x 8", easily fitting onto letter size plywood.

How to assemble your grasshopper

Your grasshopper is easy to assemble, but **PLEASE READ THIS FIRST:**

- Part numbers on this instruction sheet correspond to the numbers on the model;
- Only press out parts as you need them; use the pick tool to press out small parts;
- Use only white wood glue, such as Elmers in a squeeze bottle or tube;
- Don't rush! You'll achieve better results if you don't work too fast;
- If you need assistance gluing parts together, use masking tape, clothes pegs or small clamps;
- Some small parts are duplicated, just in case you lose one or break one;
- Follow the instructions below, making sure to leave the wings and antennae until last.

First, press out the body part marked "centre piece" and one of the two parts numbered "1".

Squeeze out a thin bead of glue onto one side of part #1 and spread the glue out over the surface. Try using your little finger – the glue is not harmful and washes off easily.

Position part #1 onto the centre piece so that it looks even all the way around but a little closer to the top edge, and press the two parts together.

Continue with parts #2 to #8 just like part #1, so that #2 glues to #1, #3 glues to #2, etc. until you have completed one half of the body. Parts #6, #7 and #8 glue directly to #5 and line up exactly on the leg bases.

Let the first half of the body dry

#16 directly onto #13. The feet should all line up so that they all touch the ground.

Let the first set of legs dry completely before gluing the legs on the other side.

before starting the second half, which you will make in exactly the same way as before, beginning with part #1. Do use masking tape to secure the two halves together whilst the glue dries, if necessary.

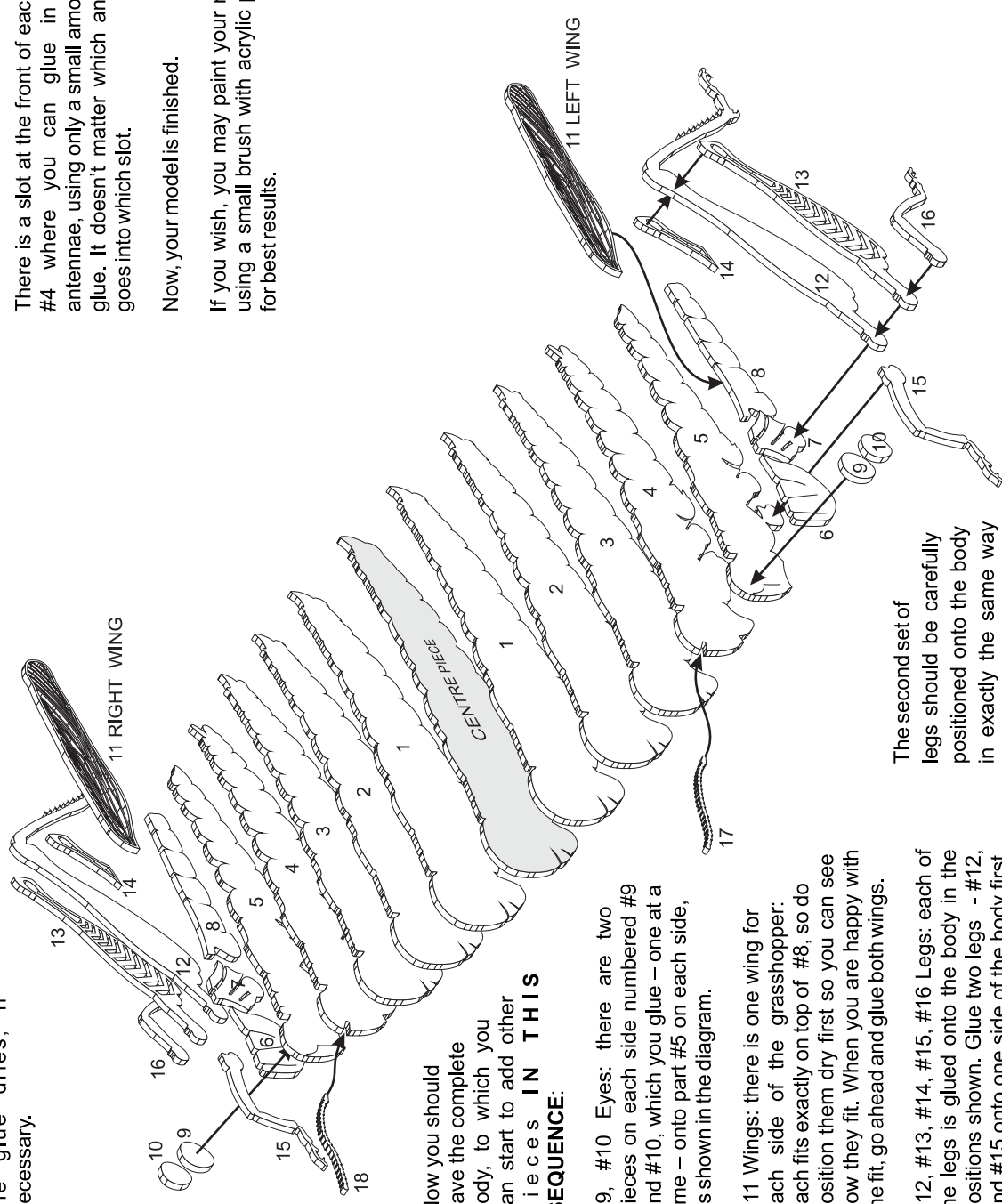
Let the second set of legs dry completely before gluing on the antennae.

#17, #18 Antennae: These are small, delicate parts which you must handle very gently (there are spare parts for these just in case you break one or lose one).

There is a slot at the front of each part #4 where you can glue in both antennae, using only a small amount of glue. It doesn't matter which antenna goes into which slot.

Now, your model is finished.

If you wish, you may paint your model using a small brush with acrylic paints for best results.



Now you should have the complete body, to which you can start to add other pieces **IN THIS SEQUENCE:**

#9, #10 Eyes: there are two pieces on each side numbered #9 and #10, which you glue – one at a time – onto part #5 on each side, as shown in the diagram.

#11 Wings: there is one wing for each side of the grasshopper: each fits exactly on top of #8, so do position them dry first so you can see how they fit. When you are happy with the fit, go ahead and glue both wings.

#12, #13, #14, #15, #16 Legs: each of the legs is glued onto the body in the positions shown. Glue two legs – #12, and #15 onto one side of the body first, making sure that each leg is aligned correctly on the body. Parts #13 and #14 glue to the outside of leg #12 to give extra dimension. Now glue the third leg

The second set of legs should be carefully positioned onto the body in exactly the same way as before. It is important to align this second set of legs with the first, otherwise your model may not stand.

This Header
Poly Bag
FOR "KIT"



← FOLD

Precision laser-cut model kit, made from 0.8mm plywood for added strength.

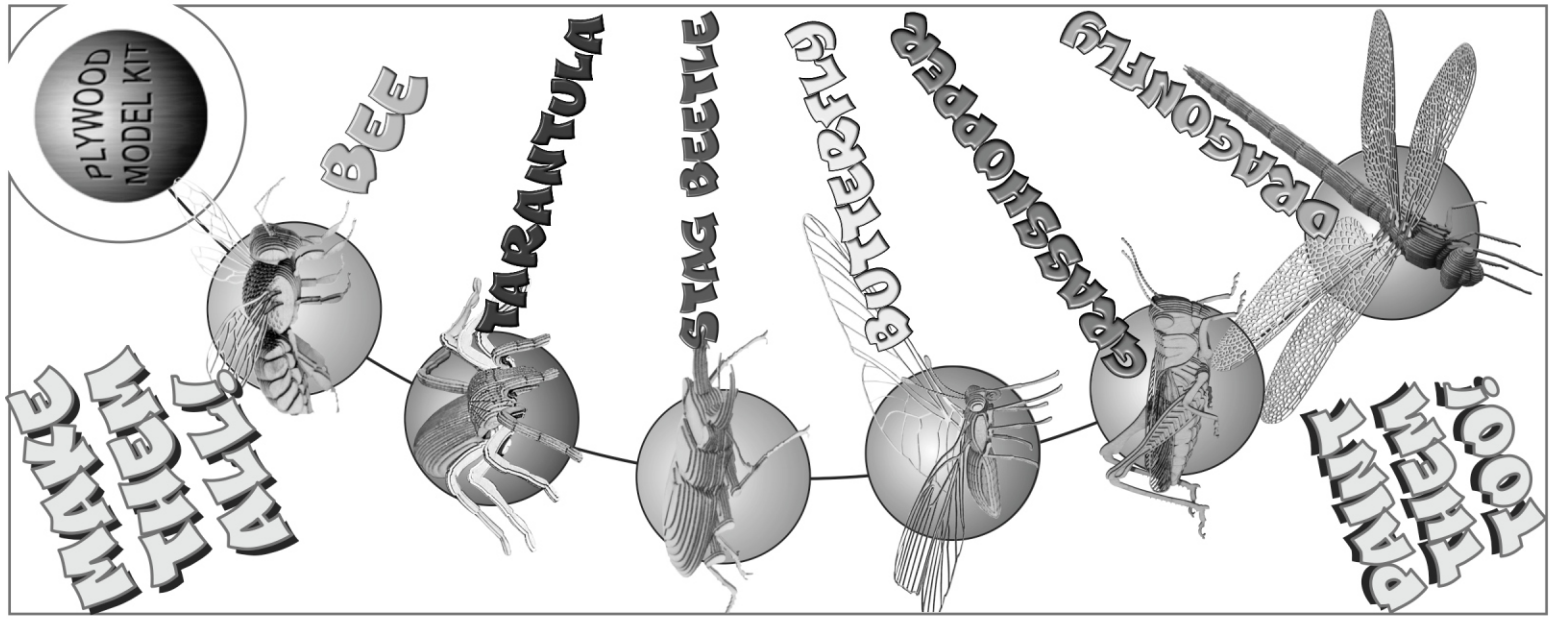
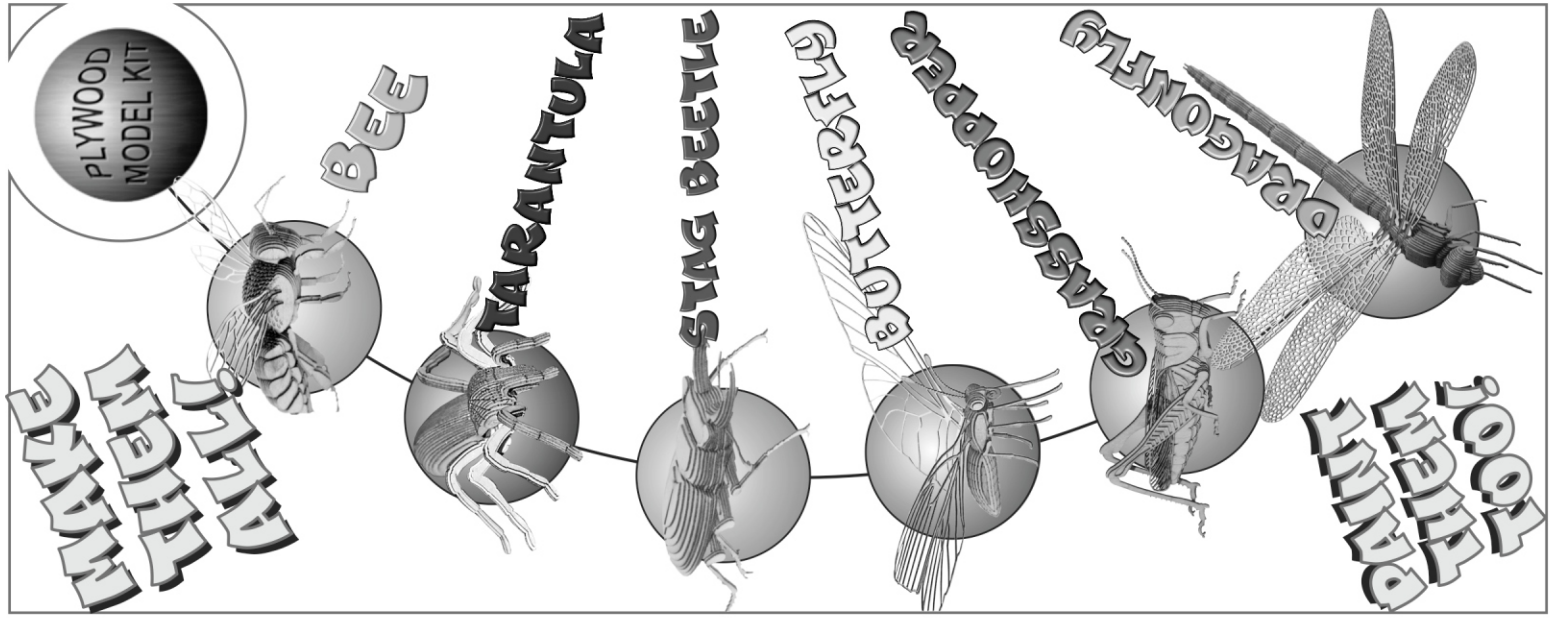
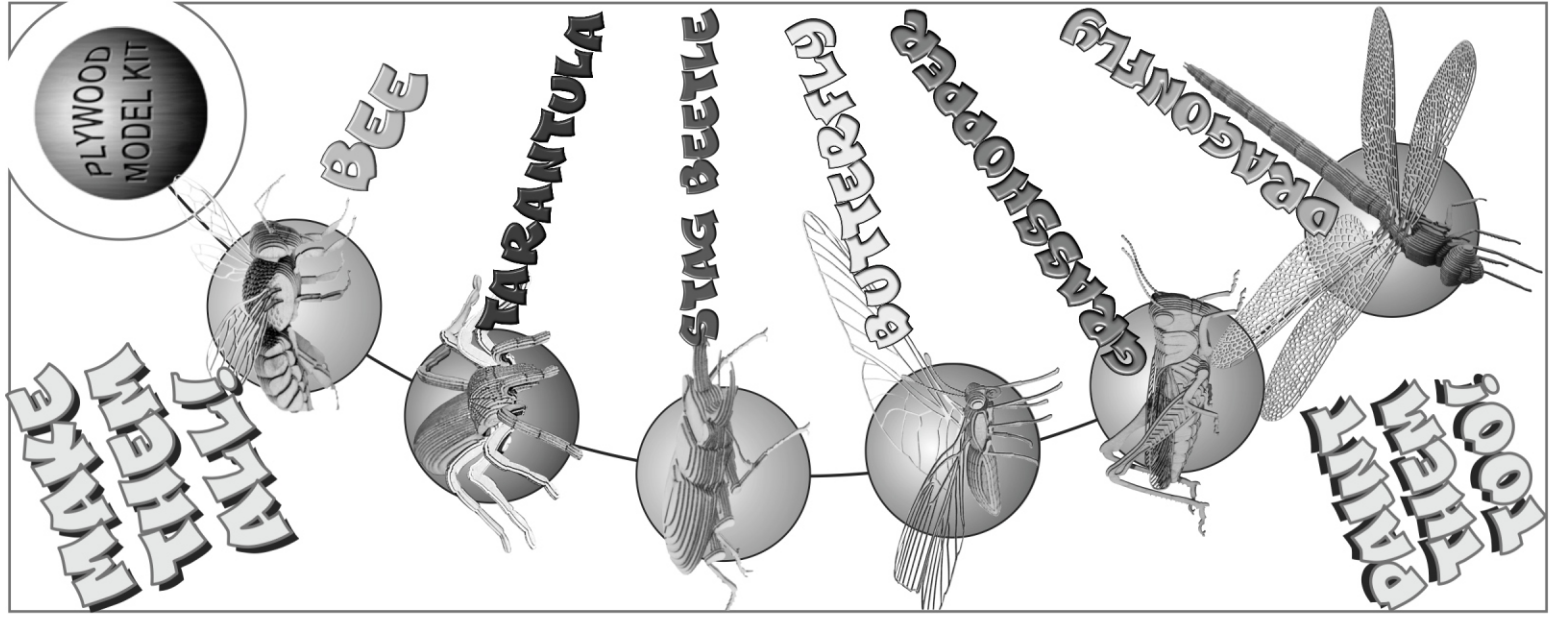
Easy to follow instructions included. No woodworking tools required. Wood glue not included.

Design by pm design shop, British Columbia. © pm design shop. Manufactured by



Cut along dotted lines

Your name here



Unique model kits

Our precision-made plywood model kits are the only ones of their kind, and have been produced with simplicity of construction in mind.

Clear instructions

Each kit contains a sheet of clear, easy to follow instructions with an exploded view of the parts as they should be assembled. In some cases, there are various delicate parts - such as legs - for which we have included extras, just in case.

Every part on the plywood sheet has a number which corresponds to that part on the instruction sheet.

Wood glue

You will need a small tube of wood glue, such as Elmer's - available at your local craft or hardware store, but nothing more than that and a little patience in order to complete each model!

When you have finished making a model, and the glue is completely dry, you may wish to paint or varnish it.

Painting

For painting, we recommend using acrylic paints, which dry fairly quickly, and which are available in many exciting colors how about a metallic colour for the dragonfly wings?

Varnishing

For varnishing, choose a clear or color varnish that you can apply directly to bare wood with a small, soft brush. Applied thinly, these varnishes will also dry quite quickly.

Age group

Our models can be constructed by almost anybody of any age, but we strongly recommend adult assistance for young builders who may not be used to handling small parts as contained in our kits. *Please note:* these display models will not withstand the rigors of toy play!

Happy Modeling!

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MAKE THEM!

PLYWOOD MODEL KIT

BEE

TARANTULA

STAG BEETLE

BUTTERFLY

GRASSHOPPER

DRAGONFLY

MAKE THEM!

This block contains a horizontal sequence of six insect models, each mounted on a colored circular base. From left to right, the insects are: a Bee (pink base), a Tarantula (blue base), a Stag Beetle (brown base), a Butterfly (blue base), a Grasshopper (green base), and a Dragonfly (red base). The insects are connected by a thin black line. On the far left, a brown circle contains the text 'PLYWOOD MODEL KIT'. The words 'MAKE THEM!' are written vertically in large, bold, yellow letters on both the left and right sides of the sequence.

MAKE THEM!

PLYWOOD MODEL KIT

BEE

TARANTULA

STAG BEETLE

BUTTERFLY

GRASSHOPPER

DRAGONFLY

MAKE THEM!

This block is identical to the first one, featuring a horizontal sequence of six insect models (Bee, Tarantula, Stag Beetle, Butterfly, Grasshopper, Dragonfly) on colored bases, connected by a line. It includes the 'PLYWOOD MODEL KIT' label and the 'MAKE THEM!' text on both sides.

MAKE THEM!

PLYWOOD MODEL KIT

BEE

TARANTULA

STAG BEETLE

BUTTERFLY

GRASSHOPPER

DRAGONFLY

MAKE THEM!

This block is identical to the previous two, featuring a horizontal sequence of six insect models (Bee, Tarantula, Stag Beetle, Butterfly, Grasshopper, Dragonfly) on colored bases, connected by a line. It includes the 'PLYWOOD MODEL KIT' label and the 'MAKE THEM!' text on both sides.

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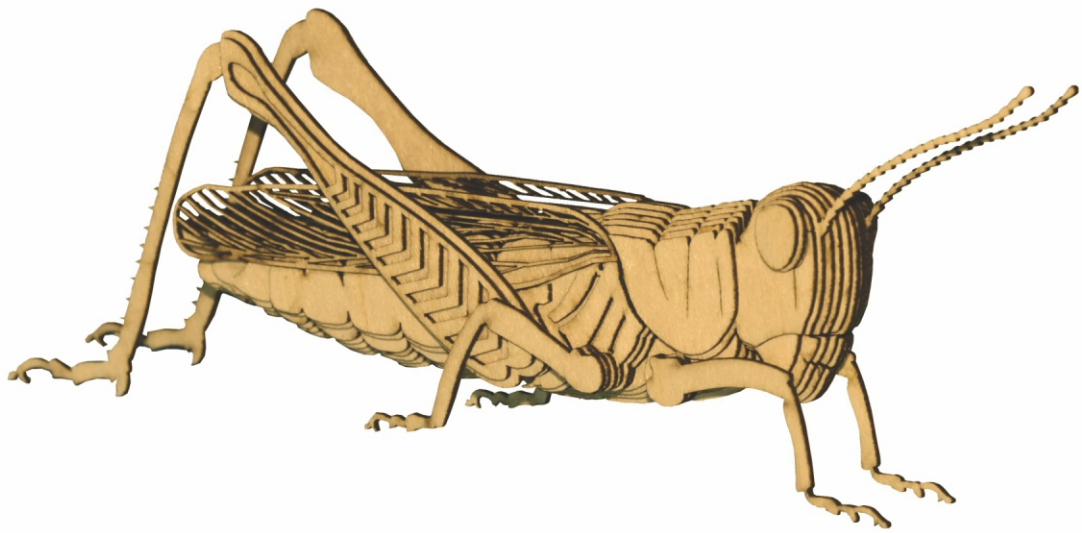
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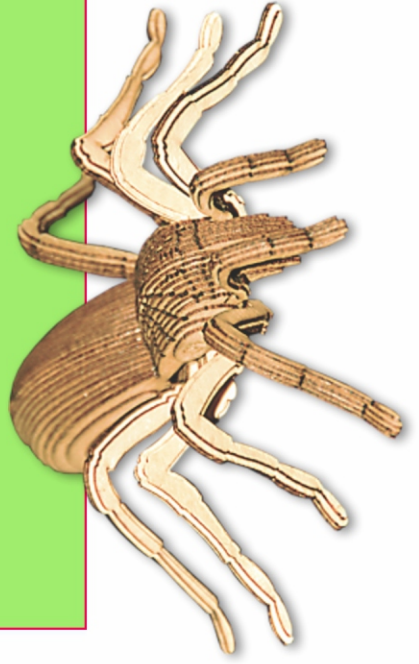
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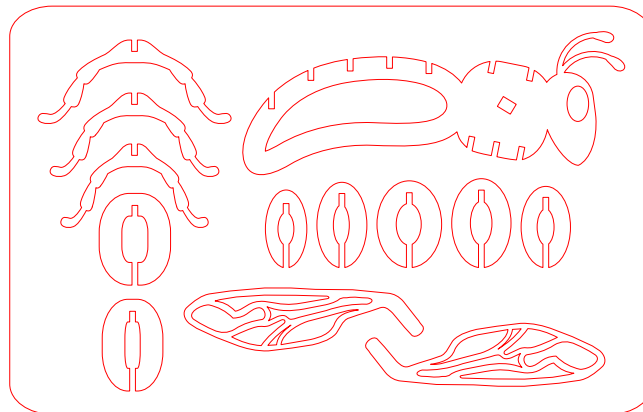
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PRECISION LASER MODELS



WASP mini model



BUTTERFLY mini model

